



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

January 22, 2001

#16/1373  
9/16/01  
J. L. Sorkin

Invention: A NEW PROCESS AND APPARATUS FOR RAPID AND  
HOMOGENEOUS MIXING OF FLUIDS IN CONTINUOUS  
OPERATIONS  
Application No.: 09/283,198  
Filed: April 1, 1999  
Country: United States  
Inventor: H. E. Fielder & G. R. Wang  
Examiner: David L. Sorkin  
Art Unit: 1723  
Due Date: February 3, 2001

The Commissioner of Patents and Trademarks  
WASHINGTON, D.C.  
U.S.A. 20231

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TO THE PATENT & TRADEMARK OFFICE

**Response to the DETAILED ACTION**

Dear Mr. D. L. Sorkin,

Applicant respectfully acknowledges receipt of office DETAILED ACTION dated August 1, 2001.

**Amendment to Claim 23(a) filed December 04 2000**

Since the claim 23(a) filed December 04 2000 had a typo, (where symbol "oooooin" should be replaced by "flow in"), I respectfully request amendment to the claim 23(a) filed December 04 2000 without the addition of new subject matter. Deletions therefrom are shown in square parentheses while additions thereto are underlined.

Claim 23 A process for creating an instability mechanism for rapid and homogeneous mixing of one or more fluids comprising:

- (a) introducing one or more fluids into a mixing chamber having a specific geometry for enhancing and producing corners [0000in] flow in said mixing chamber for creating corner vortices, and having one or more inlets for receiving said fluids and at least one splitter plate having a trailing edge and configured to create corners in said mixing chamber and to create a shear layer between said fluids;
- (b) separating said fluids on entrance into said mixing chamber by said splitter plate creating primary vortices at said trailing edge of said splitter plate;
- (c) forcing said shear layer between said fluids through the periodic application of a narrow frequency band, said shear layers having a specific receptivity to said narrow frequency band, and independent of said fluid's velocity into said mixing chamber; and
- (d) creating enhanced streamwise vortices for enhanced mixing through the interaction between corner vortices and said primary vortices.

**New address**

Please be noticed that the applicant's present address is changed to

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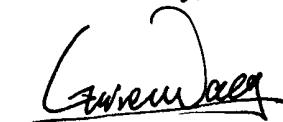
Guiren Wang  
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If you have any question, please let me know.

Thank you very much for your help!

Your faithfully,



Guiren Wang